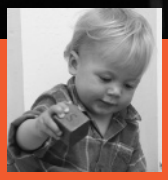
Brain Research **Findings** & Suggested Actions

Research shows us children's brains have optimal periods of development for each function. The number of brain connections the child's brain makes depends on the variety and richness of learning experiences the child is exposed to.



Let your child experience the deep rhythms of ethnic music, the freedom of watercolors splashed across an easel, the joy of collecting autumn leaves ... and the pride of building a city of blocks.

Finding: The brain is particularly absorbent during the first three years of life. The number of brain connections that are made depends on the variety and richness of learning experiences a child is exposed to. Brain cell connections, strengthened through consistent sensory stimulation from the environment, lay the foundation for future student achievement and academic success.

➤ ***Action:*** Play is the "work" of young children. This early play is even **more** important educationally than later, more formal education. Let your child play in sand and water, squish play-doh through his fingers, sing silly rhymes, run across the lawn into your arms, be angry when she can't have a toy or be sad when his grandma leaves. Let your child experience the deep rhythms of ethnic music, the freedom of watercolors splashed across an easel, the joy of collecting autumn leaves and sorting them by color and shape and the pride of building a city of blocks.

Finding: A baby is born with 100 billion neurons, or nerve cells, in her brain. The way those cells get organized and connected will be an important factor in determining the capabilities of that child for the rest of his life.

➤ ***Action:*** Take advantage of learning opportunities in the earliest days of life to heighten your child's development. Learn to provide her with the right amount of stimulation at the right time. Let him experience new sights and sounds, colors and shapes. Talk soothingly and often to her. Play Mozart for him. Repeat nursery rhymes and favorite stories. Read, read, read!

Finding: Children who are touched, held and played with regularly develop brains that are larger, with stronger connections between brain cells, than those who are not.

➤ ***Action:*** Hold your child often, soothingly rub her back, gently massage his tiny feet, snuggle her close to you many times a day. Make eye contact - this is very important. Laugh with him. Play with her. Let your eyes and words and touch tell your baby how wonderful she is! If you don't have a baby, share with young parents the importance of holding and rocking their baby; model gentle touch.

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Finding: Early exposure to music seems to enhance a child's mathematical capabilities and complex reasoning facilities. Music lessons may help develop spatial skills.

➤ ***Action:*** Expose your child to a rich variety of music, even in the womb. Sing to your child and encourage her to sing, dance and move to rhythms. If your child shows evidence of musical aptitude or interest, give him instrument lessons. (Almost all concert level players begin to play prior to the age of 10!) Play counting games - "one toy truck for me and one for you." Encourage your child to build with blocks, explaining that two blocks of one size equal one block of the next larger size.

Finding: By the age of one, the basic sounds of your child's native language(s) are "wired" into the brain. From age one to two, a child incorporates new vocabulary into that language even if he is not speaking. Children whose caregivers speak to them frequently know about 300 more words by the age of two than those whose caregivers talk to them less. Hearing problems at this time can diminish the ability to pair sounds with letters.

➤ ***Action:*** Talk to your young child often. Use simple words. When your child says "house," respond with descriptors like, "It is a little purple house." Connect words to objects and actions. Expose your child to different languages - if possible before the age of 10. Have your child screened for hearing problems in the first months of life.

Finding: Even before birth, an infant is tuning in to the sound and rhythm of his mother's voice. Over the next six years, her brain will make the neural pathways to allow her to decipher and reproduce language. A six month-old can recognize the vowel sounds that are the basic building blocks of speech. He has already developed neural pathways to respond to the distinctive sounds of his native language.

Let her experience new sights and sounds, colors and shapes. Repeat nursery rhymes and favorite stories.

Read, read, read!

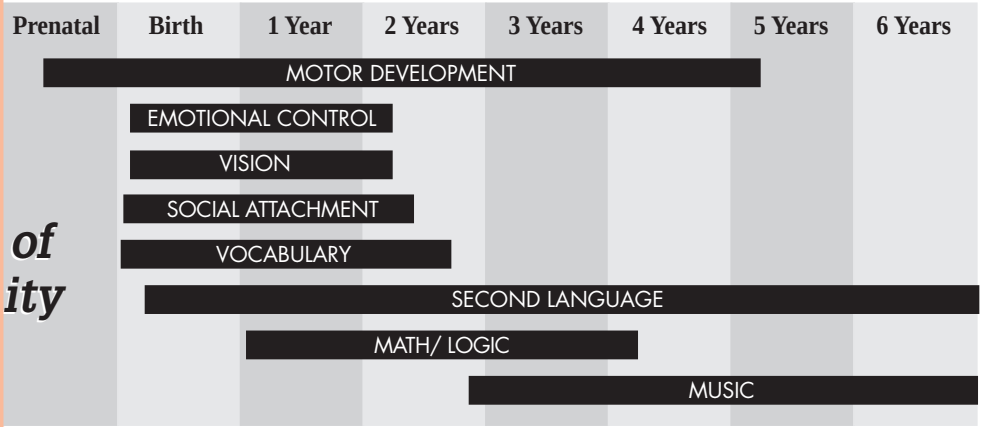
➤ ***Action:*** Talk and sing face-to-face with your baby. Talking often to your baby increases his brain's development of language pathways. Your infant will respond to soft, higher pitched voices. The high-pitched, singsong speech style parents naturally use with their babies is finely tuned to the baby's ability to process language and helps him connect objects with words.

Finding: At birth, babies can move their limbs, but in a jerky, uncontrolled fashion. Over the next four years, the brain progressively refines the circuitry for reaching, grabbing, sitting, crawling, walking and running.

➤ ***Action:*** Give babies as much freedom to explore as safety permits – allow your baby lots of time to crawl, roll, push, pull and reach. Play with a soft ball together. During these formative years, just reaching for an object helps the brain develop eye-hand coordination. As soon as children are ready for them, activities like playing a violin or piano encourage the ongoing development of fine motor skills.

Finding: Research tells us there are optimum periods of development for each function in a child's brain. If the brain misses the opportunity to develop the basic circuitry for a function (for example, seeing), it may permanently lose the capability for that function. Caregivers who understand the critical periods of development in the brain can help development by providing the right stimulation at the right time.

➤ ***Action:*** Increase parent education about child development through programs and prenatal education opportunities. Support family life classes in every high school.



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Brain Research Finds & Suggested Actions
from Oregon's Child: Everyone's Business/Straight Shooting Exhibit, Oregon State Capitol, February 1997

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